

RAVAGES
OF THE
Gypsy and Brown Tail Moths

1905

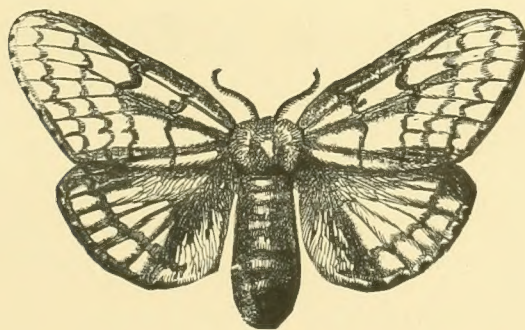


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ILLUSTRATIONS
OF THE
RAVAGES OF THE
Gypsy and Brown Tail Moths



SECOND EDITION

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THREE WILLOWS AT JUNCTION OF FOREST STREET AND FELLSWAY WEST HAVE BY COUNT 8,565 CLUSTERS OF GYPSY MOTH EGGS, WHICH IF NOT DESTROYED WILL PRODUCE NEXT YEAR OVER 2,569,500 CATERPILLARS.

SB945
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PRESS OF
MEDFORD MERCURY

1906

Gift

H. W. Pitman

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The Gypsy and Brown Tail Moth Pests

EVIDENCES of the ravages of the gypsy and brown tail moths are apparent everywhere in Medford. Some few streets and private places are comparatively clear, but even there may be found traces of past damage, with scattered egg clusters waiting to develop in the spring. The gypsy moth is Medford's great blight. The beauty and comfort of the city are in danger; property values are threatened, and unless the pest is brought under control the prosperity of Medford will be seriously affected. It has been demonstrated by private individuals that the moths may be destroyed in such numbers as to practically free estates from damage; but under present conditions the emigration from neighboring places requires continual vigilance and active labor to maintain the freedom of trees once cleansed. United, intelligent and persistent effort only will clear Medford of the moths which have been its curse for many years. The city, the state and all owners of private property must work together to consistently suppress the moths, and the money and labor must be directed by intelligent effort.

To efficiently carry on the work of suppressing the gypsy moth most advantageously a knowledge is necessary of the nature of the insect, its habits, conditions of life and the most certain means of killing it. Medford is the centre of the gypsy moth ravages. It has suffered more than any other city in the western world from these attacks, and, emigrating from Medford, the moths have spread over a large area of eastern Massachusetts. The legislature has done wisely to take up the fight in the hope of redeeming the section already afflicted and protecting the rest of the state from the invasion.

The curse of the gypsy moth in Massachusetts is traceable to the experiments of Professor Leopold Trouvelot, an eminent astronomer and naturalist, who was trying to breed a new silkworm. Professor Trouvelot lived on Myrtle street in 1868, and by the accidental falling of a vessel containing moths from the sill of an open window some of the insects escaped, and later more moths were freed when a high wind broke the nettings in which he had confined them on shrubs growing on his premises.

The professor was aware of the escape of the moths, and, recognizing their destructive capacity, he strove earnestly to recover them. As his efforts were unavailing he gave public notice of the escape of the moths that his neighbors and townspeople might assist in eradicating them before their foothold in this climate was secure. Unfortunately for Medford the co-operation of the people was not hearty nor effective. They did not realize the danger then, nor do they fully realize the magnitude of the danger which threatens the city now.

For ten years the gypsy moths slowly accumulated. Their numbers were kept down by various adverse influences. They were held in check by the new and changeable climate; forest and brush fires thinned their numbers amazingly, and the birds and other insects attacked them with more or less success. Nature's forces strove to drive out the interlopers, while man ignored their increase. By 1879 the moths had spread over a considerable territory, and they increased each year in numbers and voracity until in 1889 the first extensive outbreak of the moths was noticeable in Medford. The caterpillars assembled in hordes in the neighborhood of the Trouvelot house, blighting the foliage on all the trees and shrubs, and making life miserable for all the inhabitants of that locality. They spread to other sections of Medford and to Malden, and to-day the infested district comprises one hundred and twenty-four cities and towns in Massachusetts and takes in wide stretches of woodland. The beautiful Middlesex Fells, purchased by the state for the Metropolitan park reservation, are seriously infested, and the damage the moths will inflict there is only limited by the activity of the park commission in fighting the pests and the efficiency of the methods of destruction.

For many years before it made its appearance in this country, the gypsy moth flourished in the forests of the old world. In Germany particularly it has gained a strong hold, although it has been kept reasonably under control by its natural enemies and the energetic and thorough methods of hand destruction practised by the German authorities. At times whole regiments of the German army have been set at work

In the forests destroying caterpillars, and it is apparent that the scourge in America will exceed the European ravages unless its growth is speedily checked.

The gypsy moth has been subjected to extraordinary study since the time of Professor Trouvelot, but, although its nature and characteristics are well understood by naturalists, the public is still astonishingly ignorant on this subject, even in places like Medford where no one can walk for any distance without seeing gypsy moths in one of their various stages of development. A certain amount of information has been disseminated through the State board of agriculture, and the superintendent of gypsy moth destruction, appointed last summer by the governor, is now sending out various leaflets and posters in the hope of educating the people as to the best means of dealing with this evil. Misdirected efforts at extermination only serve to spread the pest, but a campaign of education coupled with active, intelligent efforts by town, city and state authorities may yet reduce the pest in America to a minimum if it cannot be completely eradicated.

The life of the gypsy moth is marked by four stages. The first stage is the egg cluster which serves to contain life from the late summer until the first warm days of spring. These egg clusters are the yellowish brown patches now apparent on the trees of Medford. Each egg cluster contains from three hundred to six hundred eggs, and many trees are so thickly covered with clusters as to conceal the bark for considerable space around the trunks. The egg clusters are laid by the female moth in July and August. The hairy covering is spun by her, and, having given her all for the benefit of posterity, she forthwith dies. The covering she places about the eggs will survive an ordinary flame, is secure protection from extremes of cold and suffices to keep out predatory insects and animals.

It is when the moths are inert in the form of egg clusters that the best opportunity is offered for hand destruction. Creosote and crude oil are deadly to eggs and caterpillars, and the application of a brush dipped in creosote or crude oil to the egg clusters of the gypsy moth, with sufficient care to saturate the eggs, will kill more moths in the egg state than can ever be as easily destroyed in any other stage.

For treating the egg clusters of the gypsy moth, General Samuel C. Lawrence is using a mixture of four parts of crude oil and one part of creosote. To forty gallons of crude oil he adds ten gallons of creosote and colors the fifty gallons with one and a half pounds of lampblack.

The creosote mixture sold in the market is the best for people who use it in small quantities.

In April and May the eggs clusters begin to hatch.

The young caterpillars first attack buds, then blossoms and foliage, increasing in voracity as they augment in size. While they show some preference for fruit trees and certain kinds of shade trees, the gypsy moth caterpillars will, if their choice is limited, eat any sort of trees or shrubbery. They feed mostly in the late afternoon and night, as they object to the heat of the sun, and this peculiarity of seeking the shade gives opportunity for their wholesale destruction in that stage. Caterpillars crawl or spin down from the foliage to seek shade by day. Many of them gather under burlap bands tied about the trees and offer a good opportunity for their slaughter which should not be neglected. In the caterpillar stage occurs most of the spread of the pest. When whole orchards and stretches of woodland have been bereft of every green leaf, colonies of caterpillars will seek new worlds to conquer. Stray caterpillars are taken on teams, cars and automobiles and dropped in new localities, there to breed new colonies of pests.

The voracity and filthiness of the gypsy moth caterpillar beggar description. In emigrating from place to place they have swarmed over trolley tracks so that the car wheels slipped on their bodies and pedestrians could not avoid stepping on them. When the caterpillars are feeding in the trees in the height of the season the noise of the excrement as it drops from them can be plainly heard and sounds like the patter of rain. The caterpillars are gluttons, eating everything and anything in the way of foliage and increasing in size with marvelous rapidity. In the caterpillar stage the moths do the most damage and are most offensive. The majority of hardy trees will not survive three successive seasons of defoliation, and many fruit trees will not survive two. One season at the mercy of the caterpillar will kill pine trees.

Through the work of caterpillars unopposed by the destructive agencies of man, orchards and woodlands are left as bare in July and August as in the dead of winter. Having eaten and destroyed such vegetation as he is able, the gypsy moth caterpillar in July or August goes into the pupal state. Seeking a sheltered spot the caterpillar spins about him a silken web and hangs head down. Within two weeks the caterpillars emerge from the pupal state as moths, but they do not live long. The female moth proceeds to lay her eggs soon after emerging from the pupal state. It is one of the merciful dispensations of Providence that the female moth with her body stored with hundreds of eggs cannot fly. Otherwise the pest would be now spread over a vast extent of America instead of still being confined within a comparatively small area after a growth of thirty-seven years, that is, since the summer of 1868.

As soon as the female moth has laid her eggs she dies. The male moths live longer but do no damage

apart from the annoyance of their presence in large numbers.

It is clear that moth destruction may be most economically and efficiently carried on while the nests still contain the unhatched egg clusters. The female moth burdened with her heavy load of eggs will drop it where she may. Hidden recesses of walls and fences, the inside of rotted trees and other sheltered spots are her favorite places for depositing eggs; but the female is frequently unable to carry her heavy load any considerable distance, and the egg clusters are found in large numbers on the ground, on the trunks and branches of trees, on porches and sides of houses, in plain sight and easy of access for purposes of destruction. From the time the eggs are laid until they hatch in the spring, the destruction of the moths may be effectively carried on, although the snow acts as a blanket to conceal and preserve the nests from their foes.

The following is a summary of the number of trees defoliated this year on the estates on the streets in Medford, not including the tens of thousands of trees which have been stripped of their leaves in the woodlands.

	Apple trees.	Other kinds.
West Medford,		
North of High street,	257	358
South of High street and east of B. & M. R. R.,	80	88
South of High street and west of B. & M. R. R.,	68	69
	—	—
	405	515
Medford Hillside,	440	270
Medford Center,		
Between Salem street and Mystic river,	147	176
North of Salem street and east of Forest street,	132	332
North of High street and east of Rural avenue,	37	103
	—	—
	1161	1396

Making a total of 2,557 trees stripped of their leaves, and of these trees in all probability two-thirds will die this year or the next.

To give an adequate idea of the destruction of trees by the moths in a term of three years in localities which are either not intelligently and efficiently cared for, or are wholly neglected, we submit the following instances:—

In Walter C. Wright's wood lot, formerly known as Colonel Samuel Blanchard's white pine grove, on Fulton street, of the 379 trees that were yet standing early in July all but 39 trees, which are mostly yellow pines, were defoliated, and of the 340 defoliated trees

182 are dead, including 154 pine trees, most of them very tall, white pine trees and many of these of quite large size. Of the 158 defoliated trees other than pine trees left, many will not long survive the effects of the ravages of the moths to which they have been subjected during the past three years.

A good illustration of the destructive power of the gypsy and brown tail moths, and of the fact that few trees will survive defoliation by these moths for three years in succession may be seen in the northern part of the Russell wood lot on Winthrop street near Oak Grove cemetery. A recent careful examination shows that in the ten acres inclosed for three sides by a stone wall only a few trees survive. These facts certainly present food for thought, and should arouse the residents of Medford to more vigorous exertion in the destruction of the gypsy and brown tail moths.

The city of Medford has begun its winter's work of moth destruction. A gang of men armed with brushes and crude oil colored with printer's ink are taking tree by tree, painting each egg cluster within reach and destroying two millions of eggs a day. The city work should be kept up energetically until spring, and when the caterpillars which escape destruction are hatched, they should be promptly attacked by spraying the foliage with arsenate of lead and lime. General Samuel C. Lawrence has taken a deep interest in the destruction of the moths. He is cleaning his own extensive estates, and has also cleaned many of his neighbors' estates. He has made a study of the gypsy moth and knows how it may be efficiently overcome. He has demonstrated, too, that the moths can be kept under control, and the object lesson furnished by his estate has done much to keep up the courage of the people in maintaining the conflict.

The discouraging feature of even the most efficient destruction is the rapidity with which grounds once cleansed are again overrun by invasions from neighboring territory. One careless or shiftless property owner can neutralize by his inactivity the energy of all his neighbors. All must work together. A systematic campaign of destruction must be waged consistently throughout the whole infested district if the moth pest is to be conquered. City must co-operate with city, town with town and individual with individual. Money must be freely expended and all work intelligently directed.

After the caterpillars have begun to crawl much can still be done in the way of destruction although such wholesale results as the attacks on the egg clusters accomplish are not possible. Young caterpillars may be killed by spraying the foliage with arsenical poison, and the spraying of foliage with arsenical poison will kill many older gypsy caterpillars and

all brown tail caterpillars. A simple burlap band tied around a tree so that a loose flap will hang over is an effective attraction for caterpillars; seeking shelter from the sun's rays they will crawl under the burlap, and a daily visit will disclose them congregated there for comfort, and they should be promptly killed there and then, or perhaps never. Printer's ink applied on bands of tarred paper will prevent the passage of caterpillars provided the ink is often replenished as it dries quickly. However, experience proves that printer's ink cannot be depended upon for this purpose in cold snaps and is of no use when it has become dry. Where the pest rages the caterpillars will plunge into the sticky mass until the bodies of the dead form a dry bridge on which the living may pass over to reach the foliage of the trees. By the mere force of numbers the gypsy moth caterpillar renders ordinary methods of little use unless closely followed up. The surest method is to band the trees with tanglefoot, which, unlike raupenheim and bod-lime, does not kill or injure the trees.

Much has been stated in the public press and in interviews of scientific men regarding the discovery of a parasite or a natural enemy of the gypsy moth which would prevent its rapid spread and ultimately eradicate it from the country. Some people have urged as an objection to public appropriation or private expenditures that the proper way to fight a scourge of Nature is with Nature's weapons, and that parasites are bound to be discovered to effectively do the work which expensive hand destruction is doing now. Various parasites have been discovered and are well known, both from their operations abroad and laboratory experiments in this country. But all attempts to breed an effective parasite of the gypsy moth in this country have so far failed. Attempts to import parasites from Europe have failed through the death of the insects on shipboard; the frequent changes of the American climate has hindered the growth of parasites, and so many difficulties have interfered that after years of study and experiment the gypsy moth in America is as yet untroubled by any considerable attacks from parasites.

The investigation and experiment are still going on, and it may be that the problem will ultimately be solved that way; but in the meantime the caterpillars are ruining the vegetation of the infested district, and without hand destruction to keep the caterpillars in check not a tree would be left in the district. There are many sombre examples of the destruction the caterpillars may do within the borders of Medford. Dead trees and defoliated forests mark every bit of woodland where caterpillars have been permitted to live unmolested for three years. It is no exaggeration to say that the Middlesex Fells would

be destroyed within a few years if the war on the gypsy moth were to cease. Hand destruction must be actively prosecuted while the parasite is being developed; and when a parasite of the gypsy moth is discovered, it will take a term of years to get an adequate supply for general effective use.

Strong pressure was brought to bear on the legislature of 1904-1905 to provide for state supervision of the destruction of the gypsy moth. The danger to the whole state was explained, as well as the impossibility of effectively fighting the pest without the consistent co-operation of all the places infested with the moths. At the hearings held before the committee on agriculture, and later before the ways and means committee, it was shown that the interests of the whole state were threatened and that the need for concerted, authoritative action was imperative. Late in the session the ways and means committee agreed upon a bill which received the approval of the house and senate and the signature of the governor. The bill puts by far the greater portion of the expense on the district directly affected, but a state superintendent is placed in charge of the work with authority to compel co-operation. The results of the legislation were not apparent last year because of the lack of time, but from now on the war against the gypsy moth should be intelligently waged with every one cheerfully and efficiently doing his own part. Signs of a mitigation of the scourge will be eagerly looked for next spring, and all over the state people are watching for an improvement in conditions. The vegetation of Massachusetts is threatened, and Medford as the worst afflicted place in the infested district will make the record by which the whole district must be judged. Every property owner and householder in Medford, in addition to ridding his own place of the pest, must heartily co-operate with the city and the state in this renewed and united effort to stamp out the gypsy and the brown tail moths.

A copy of the act of the legislature, approved May 8, 1905, under which the suppression of the gypsy and brown tail moths is proceeding, follows in full:—

[CHAP. 381.]

AN ACT TO PROVIDE FOR SUPPRESSING THE GYPSY
AND BROWN TAIL MOTHS.

Be it enacted, etc., as follows:

SECTION 1. For the purposes of this act the pupæ, nests, eggs and caterpillars of the gypsy and brown tail moths and said moths are hereby declared public nuisances, and their suppression is authorized and required; but no owner or occupant of an estate infested by such nuisance shall by reason thereof be liable to an action, civil or criminal, except to the extent and in the manner and form herein set forth.

SECTION 2. The governor, by and with the consent of the council, shall appoint a superintendent for suppressing the gypsy and brown tail moths and shall determine his salary. The governor may, with the consent of the council, remove said superintendent at any time for such cause as he shall deem sufficient. In case of death, removal or resignation of the superintendent the governor shall forthwith appoint a successor. On or before the third Wednesday in January in each year the superintendent shall make a report of his proceedings to the general court, which shall be a public document and shall be printed. Said report shall separate so far as is practicable the expenditures on work against the gypsy moth from those on work against the brown tail moth in each city and town.

SECTION 3. The said superintendent shall act for the Commonwealth in suppressing said moths as public nuisances, in accordance with the provisions of this act. For this purpose he shall establish an office and keep a record of his doings and of his receipts and expenditures, and may make rules and regulations. He may employ such clerks, assistants and agents, including expert advisers and inspectors, as he may deem necessary and as shall be approved by the governor. He may make contracts on behalf of the Commonwealth; may act in co-operation with any person, persons, corporation or corporations, including other states, the United States or foreign governments; may conduct investigations and accumulate and distribute information concerning said moths; may devise, use and require all other lawful means of suppressing or preventing said moths; may lease real estate when he deems it necessary, and, with the approval of the board in charge, may use any real or personal property of the Commonwealth; may at all times enter upon the land of the Commonwealth or of a municipality, corporation, or other owner or owners, and may use all reasonable means in carrying out the purposes of this act; and, in the undertakings aforesaid, may, in accordance with the provisions of this act, expend the funds appropriated or donated therefor; but no expenditure shall be made or liability incurred in excess of such appropriations and donations.

SECTION 4. Cities and towns by such public officer or board as they shall designate or appoint, shall, under the advice and general direction of said superintendent, destroy the eggs, pupæ and nests of the gypsy and brown tail moths within their limits, except in parks and other property under the control of the Commonwealth, and except in private property, save as otherwise provided herein. When any city or town shall have expended within its limits city or town funds to an amount in excess of five thousand dollars in any one calendar year, in suppressing gypsy

or brown tail moths, the Commonwealth shall reimburse such city or town to the extent of fifty per cent of such excess above said five thousand dollars.

Cities or towns, where one twenty-fifth of one per cent of the assessed valuation of real and personal property is less than five thousand dollars, and where the assessed valuation of real and personal property is greater than six million dollars, shall be reimbursed by the Commonwealth to the extent of eighty per cent of the amount expended by such cities or towns of city or town funds in suppressing the gypsy and brown tail moths in any one calendar year, in excess of said one twenty-fifth of one per cent.

In the case of towns where the assessed valuation of real and personal property is less than six million dollars, after they have expended in any one calendar year town funds to an amount equal to one twenty-fifth of one per cent of their assessed valuation of real and personal property the Commonwealth shall expend within the limits of such towns, for the purpose of suppressing the gypsy and brown tail moths, such an amount in addition as the superintendent with the advice and consent of the governor shall recommend. Disbursements made by said last named towns in excess of said one twenty-fifth of one per cent shall be reimbursed by the Commonwealth every sixty days; but in the case of all others the Commonwealth shall reimburse cities and towns annually according to the provisions of this act.

No city or town shall be entitled to any reimbursement from the Commonwealth until it has submitted to the auditor of the Commonwealth itemized accounts and vouchers showing the definite amount expended by it for the purpose of this act; nor shall any money be paid out of the treasury of the Commonwealth to cities or towns, pursuant to the provisions of this act, until said vouchers and accounts have been approved by the auditor of the Commonwealth.

For the purposes of this section the years nineteen hundred and five and nineteen hundred and seven shall be considered half years, and the valuation for the year nineteen hundred and four shall be taken as a basis.

SECTION 5. When, in the opinion of the superintendent, any city or town is not expending a sufficient amount for the abatement of said nuisance, then the superintendent shall, with the advice and consent of the governor, order such city or town to expend such an amount as the superintendent shall deem necessary: *provided*, that no city or town where the assessed valuation of real and personal property exceeds six million dollars shall be required to expend during any one full year more than one fifteenth of one per cent of such valuation, and that no town where the assessed valuation of real and personal property is

less than six million dollars shall be required to expend during any one full year more than one twenty-fifth of one per cent of such valuation. For the purposes of this section the valuation of the year nineteen hundred and four shall be used.

Any city or town failing to comply with the directions of the said superintendent in the performance of said work within the date specified by him shall pay a fine of one hundred dollars a day for failure so to do; said fine to be collected by information brought by the attorney-general in the supreme judicial court for Suffolk county.

SECTION 6. The mayor of every city and the selectmen of every town shall, on or before the first day of November in each year, and at such other times as he or they shall see fit, or as the state superintendent may order, cause a notice to be sent to the owner or owners, so far as can be ascertained, of every parcel of land therein which is infested with said moths; or, if such notification appears to be impracticable, then by posting such notice on said parcels of land, requiring that the eggs, pupæ and nests of said moths shall be destroyed within a time specified in the notice.

When, in the opinion of the mayor or selectmen, the cost of destroying such eggs, pupæ and nests on lands contiguous and held under one ownership in a city or town shall exceed one half of one per cent of the assessed value of said lands, then a part of said premises on which said eggs, pupæ or nests shall be destroyed may be designated in such notice, and such requirement shall not apply to the remainder of said premises. The mayor or selectmen may designate the manner in which such work shall be done, but all work done under this section shall be subject to the approval of the state superintendent.

If the owner or owners shall fail to destroy such eggs, pupæ or nests in accordance with the requirements of the said notice, then the city or town, acting by the public officer or board of such city or town designated or appointed as aforesaid, shall, subject to the approval of the said superintendent, destroy the same, and the amount actually expended thereon, not exceeding one half of one per cent of the assessed valuation of said lands, as heretofore specified in this section, shall be assessed upon the said lands; and such an amount in addition as shall be required shall be apportioned between the city or town and the Commonwealth in accordance with the provisions of section four of this act. The amounts to be assessed upon private estates as herein provided shall be assessed and collected, and shall be a lien on said estates, in the same manner and with the same effect as is provided in the case of assessments for street watering.

SECTION 7. If, in the opinion of the assessors of

a city or town, any land therein has received, by reason of the abatement of said nuisances thereon by said superintendent or by said city or town, a special benefit beyond the general advantage to all land in the city or town, then the said assessors shall determine the value of such special benefit and shall assess the amount thereof upon said land: *provided*, that no such assessment on lands contiguous and held under one ownership shall exceed one half of one per cent of the assessed valuation of said lands: and *provided*, that the owner or owners shall have deducted from such assessment the amount paid and expended by them during the twelve months last preceding the date of such assessment toward abating the said nuisances on said lands, if, in the opinion of the assessors, such amount has been expended in good faith. Such assessment shall be a lien upon the land for three years from the first day of January next after the assessment has been made, and shall be collected under a warrant of the assessors to the collector of taxes of such city or town, in the manner and upon the terms and conditions and in the exercise of the powers and duties, so far as they may be applicable, prescribed by chapter thirteen of the Revised Laws relative to the collection of taxes.

Real estate sold hereunder may be redeemed within the time, in the manner, and under the provisions of law, so far as they may be applicable, set forth in chapter thirteen of the Revised Laws for the redemption of land sold for taxes.

A person aggrieved by such assessment may appeal to the superior court for the county in which the land lies, by entering a complaint in said court within thirty days after he has had actual notice of the assessment, which complaint shall be determined as other causes by the court without a jury. The complaint shall be heard at the first sitting of said court for trials without a jury after its entry; but the court may allow further time, or may advance the case for speedy trial, or may appoint an auditor as in other cases. The court may revise the assessment, may allow the recovery back of an amount wrongfully assessed which has been paid, may set aside, in a suit begun within three years from the date thereof, a collector's sale made under an erroneous assessment, may award costs to either party and may render such judgment as justice and equity require.

If, in the opinion of the assessors, the owner of an estate upon which an assessment, as aforesaid has been made is, by reason of age, infirmity or poverty unable to pay the assessment, they may upon application abate the same. Every city or town in rendering an account to the state auditor as provided for in section four of this act shall deduct from such amount as it has expended in excess of one twenty-fifth of one per cent or of five thousand dollars as

provided in said section, the total amount it has received for work performed under section six of this act during the term covered by the account: *provided*, such work was performed under such conditions as require reimbursement in whole or in part by the state.

SECTION 8. To meet the expenses incurred under authority of this act, there shall be allowed and paid out of the treasury of the Commonwealth, during the period up to and including May first, nineteen hundred and seven, the sum of three hundred thousand dollars. Of this amount seventy-five thousand dollars may be expended during the calendar year nineteen hundred and five; one hundred and fifty thousand dollars, and any unexpended balance of the previous year, may be expended during the calendar year nineteen hundred and six; and seventy-five thousand dollars, and any unexpended balance of the previous years, may be expended during the calendar year nineteen hundred and seven, up to and including May first.

SECTION 9. An additional sum of ten thousand dollars in each of the years nineteen hundred and five, nineteen hundred and six and nineteen hundred and seven may, in the discretion of the state superintendent, be expended by him for experimenting with parasites or natural enemies for destroying said moths, and any unexpended balance of any year may be expended in the subsequent years.

SECTION 10. Chapter two hundred and ten of the acts of the year eighteen hundred and ninety-one and sections one and two of chapter five hundred and forty-four of the acts of the year eighteen hundred and ninety-eight and section two of chapter fifty-seven of the acts of the year nineteen hundred and two, are hereby repealed.

SECTION 11. A person who wilfully resists or obstructs the superintendent or an official of a city or town, or a servant or agent duly employed, while lawfully engaged in the execution of the purposes of this act, shall forfeit a sum not exceeding twenty-five dollars for each offence.

SECTION 12. Valuations of real and personal property of the year nineteen hundred and four shall govern the provisions of this act.

SECTION 13. This act shall take effect upon its passage. [*Approved May 8, 1905.*]

The following copy of the summary of the law is quoted from Bulletin No. 1, issued by A. H. Kirkland, superintendent, September 1, 1905:

A SUMMARY OF THE LAW.

In the suppression of the gypsy and brown tail moths, certain duties under the law devolve not only upon the Commonwealth but also upon cities and towns and upon citizens as individuals. Attention is

hereby called to chapter 381 of the Acts of 1905, which defines these duties at length and which is printed in full at the end of this bulletin.

The following summary of the law is designed to give its salient points:—

The gypsy and brown tail moths are declared public nuisances and their suppression is required.

A superintendent, appointed by the Governor, with power, subject to the Governor's approval, of appointing agents and assistants, has entire general charge of the work of suppressing the moths.

Cities and towns (under the advice and general direction of the superintendent, and by such agent as they may designate or appoint) are required, under penalty for neglect, to destroy the eggs, pupæ and nests of the gypsy and brown tail moths within their limits:

Excepting that such work is not to be done by cities and towns on property controlled by the Commonwealth; nor is it to be done upon private property, excepting where the owners of the same fail to destroy the eggs, pupæ and nests of the moths, in accordance with the terms of the official notice to private owners, noted in the section here following:—

The mayor of every city and the selectmen of every town shall, at suitable times, notify every owner of land located therein which is infested with the moths, requiring him to destroy the eggs, pupæ and nests of the moths within a specified time.

When the mayor or selectmen decide that the cost of such destruction (on lands contiguous and under one ownership) will exceed one-half of one per cent of the assessed valuation of the lands, then they may designate in the notice a part only of such lands on which the destruction shall take place.

If the owner does not, as required by the terms of the aforesaid notice, destroy the eggs, pupæ and nests of the moths, then the city or town, subject to the approval of the state superintendent, shall destroy them, and shall assess upon such aforesaid lands the actual cost of so doing, to an amount, however, not exceeding one-half of one per cent of the assessed valuation of the land.

This amount, so assessed, shall be collected in the form of taxes, and constitutes a lien upon such lands.

The assessors may abate the moth assessment in the case of any private landowner decided by them to be unable to pay it because of age, infirmity or poverty.

Appeal to the county superior court, with special provision for prompt hearing, is provided by the statute for any person aggrieved by assessment on account of this work; provided a complaint is entered within thirty days of notice of such assessment.

To meet the expenses incurred under its moth-suppression law, the Commonwealth has appropriated

\$300,000. Of this sum, \$75,000 may be expended during 1905, \$150,000 (and any unexpended balance) during 1906, and \$75,000 (and any unexpended balance) during 1907, up to May 1, 1907, inclusive.

For the purpose of experimenting with natural enemies for destroying the moths, \$10,000 is additionally appropriated for each of the years 1905, 1906 and 1907.

1. Cities and towns with valuation of real and personal estate of \$12,500,000 or more, having spent \$5,000 in any one calendar year, shall be reimbursed annually 50 per cent (one-half) of all further expenditure.

2. Cities and towns, with valuation less than \$12,500,000 and more than \$6,000,000, having spent an amount equal to one-twenty-fifth of one per cent of such valuation in one year, shall be reimbursed annually 80 per cent (four-fifths) of all further expenditure.

3. Towns with valuation less than \$6,000,000, having spent an amount equal to one-twenty-fifth of one per cent of such valuation in one year, shall be reimbursed once in sixty days for *all* further expenditure.

After any town of less than \$6,000,000 valuation has expended in suppressing the gypsy and brown tail moths an amount equal to one-twenty-fifth of one per cent of its real and personal valuation,

then the Commonwealth shall expend within such town such additional sum for suppression as the superintendent, with the advice and consent of the Governor, in such case shall recommend.

No city or town with an assessed real and personal valuation of *more* than \$6,000,000 shall be required to expend in the suppression of the moths, during any one full year, more than one-fifteenth of one per cent of such valuation. No town with an assessed real and personal valuation of *less* than \$6,000,000 shall be required to thus expend during any one full year more than one-twenty-fifth of one per cent of such valuation.

Whatever valuations of real and personal property are referred to in the gypsy and brown tail moth suppression law, the valuations of 1904 are meant.

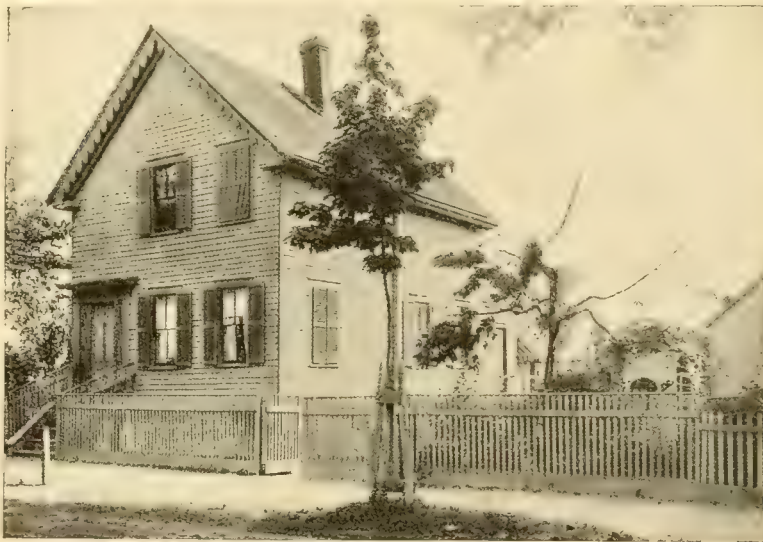
Wilful resistance to or obstruction of any agent of the Commonwealth or of any city or town, while lawfully engaged in the execution of the purposes of the moth-suppression law, is forbidden under penalty.

The Mayor of the City of Medford has notified the residents that they must comply with the law, and that failure to do so will not be tolerated.

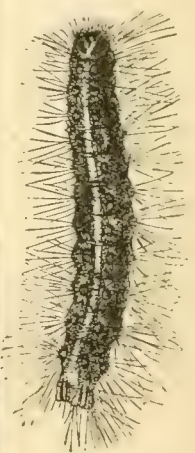
All but nine of the negatives used for the following half tone prints were taken by Mr. George W. Hersey, Medford, Mass.



BROWN TAIL
CATERPILLAR.



HOUSE OF L. TROUVELOT, WHERE THE PEST STARTED.



GYPSY MOTH
CATERPILLAR.



GYPSY MOTHS AND PUPAS ON ROCK IN THE RUSSELL WOOD LOT.



WILLOW TREE, FELLSWAY WEST, SHOWING FEMALE GYPSY MOTHS LAYING THEIR EGGS.



CHANDLER LOT, FULTON STREET, JULY 1904, NEGLECTED.



THE SAME LOT IN 1905, AFTER BEING CARED FOR.



MEADY HOUSE, CORNER OF GOVERNORS AND HALL AVENUES, IN 1904, SHOWING A TREE DEFOLIATED BY GYPSY AND BROWN TAIL CATERPILLARS.



BURNING GYPSY MOTH CATERPILLARS WITH OIL BY MEANS OF CYCLONE BURNERS ON CHANDLER LAND,
FULTON STREET.



CLEARING LAND OF GYPSY MOTH CATERPILLARS BY BURNING WITH OIL, FULTON STREET.



MEADY HOUSE IN 1905, SHOWING THE TREE AS IT APPEARS WHEN FREE FROM GYPSY MOTHS.



GANG OF WORKMEN WITH OUTFIT FOR BURNING MOTHS WITH OIL, CHANDLER LAND.



GYPSY MOTHS ON TREE, GOLF GROUNDS, BORDER ROAD.



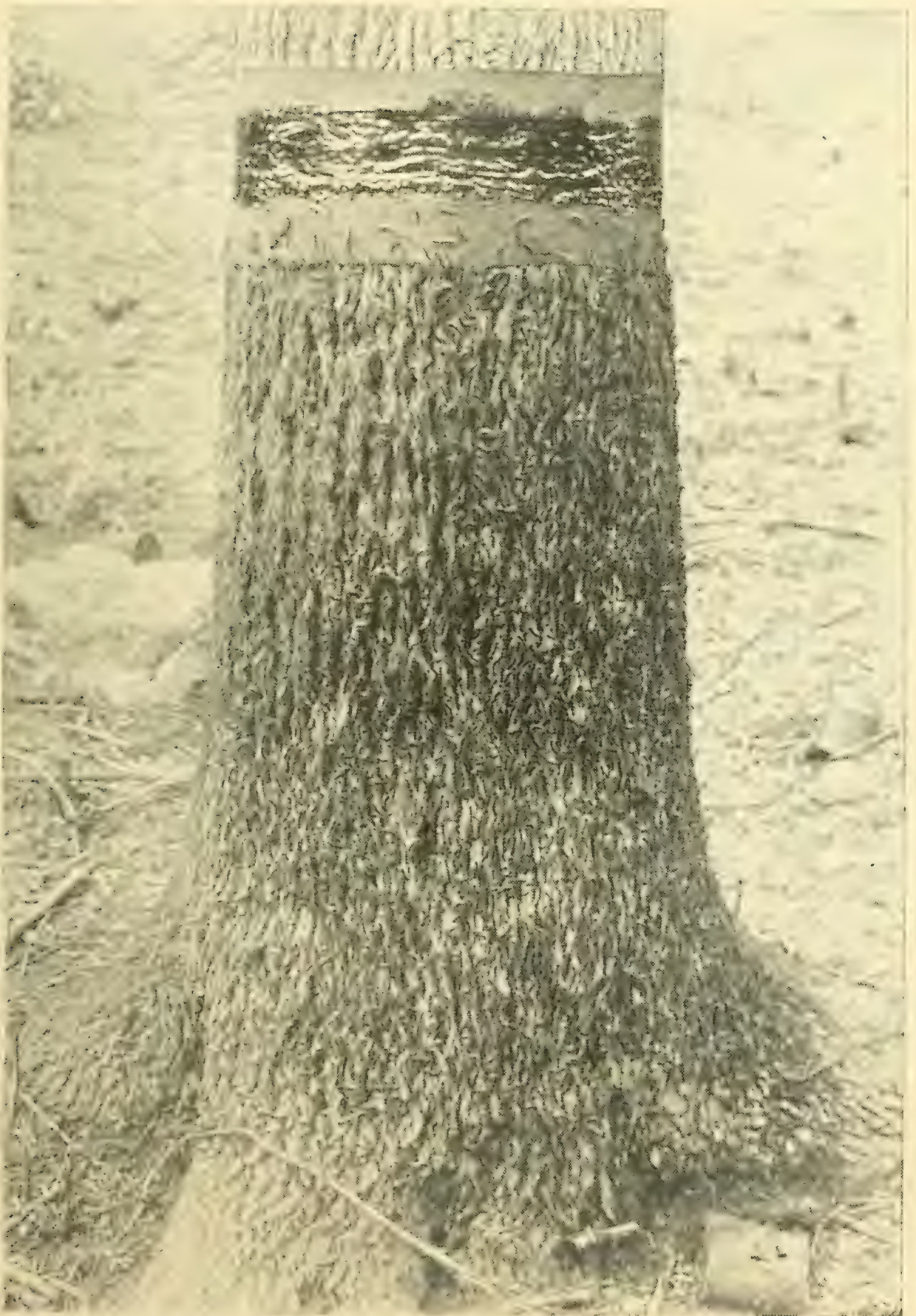
SPRAYING TREES AT THE PUFFIN ESTATE, WINTHROP STREET.



DEFOLIATED TREES ON ESTATE OF JOHN M. COPELAND, 87 PRESCOTT STREET, WEST MEDFORD.



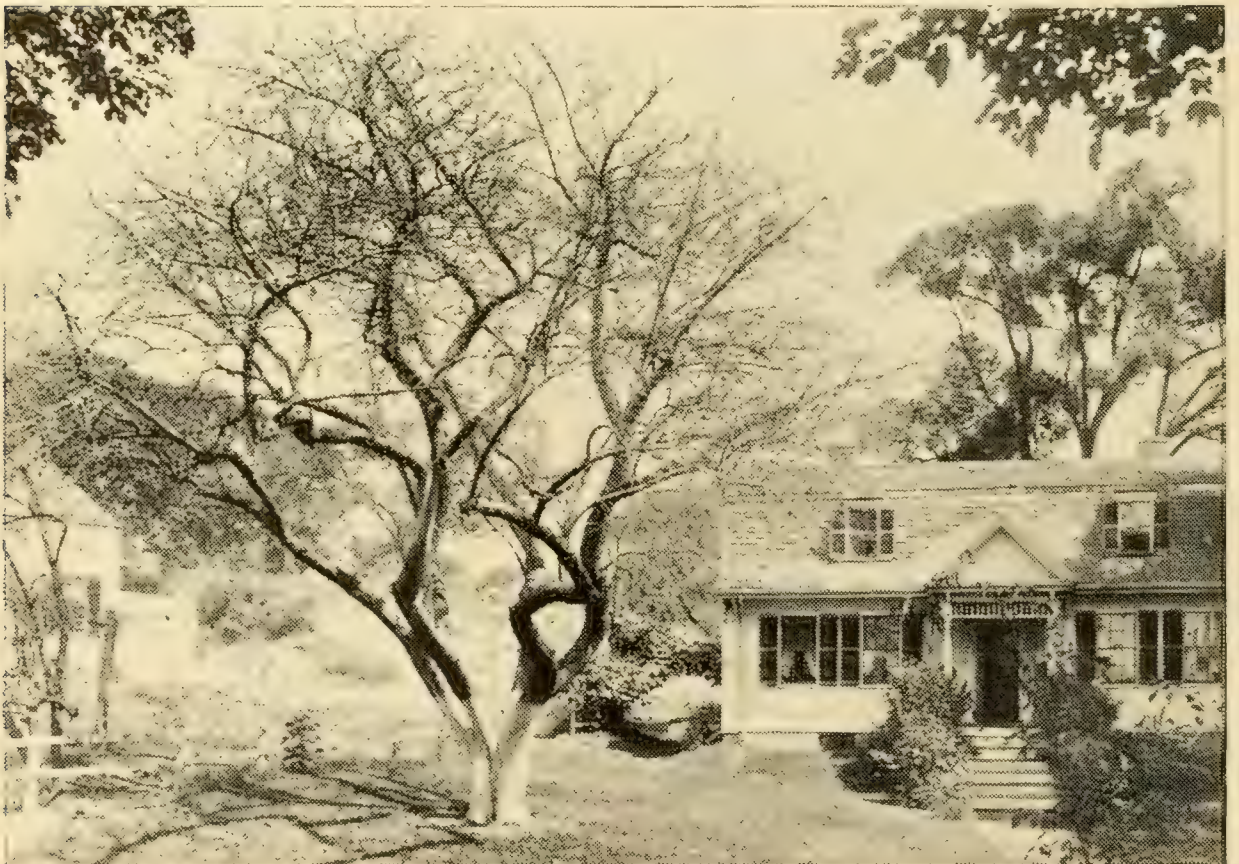
DEFOLIATED TREES ON ROCK HILL, LOOKING SOUTH, LAND OF BROOKS.



SOUTH SIDE OF TREE ON CHANDLER LAND, CORNER BROOKS AND WINTHROP STREETS, SHOWING MOTHS
STRIVING IN VAIN TO ASCEND THE TREE.



LAND IN REAR OF CHEMICAL HOUSE, CANAL STREET, WEST MEDFORD.



FOOT OF "MARM" SIMONDS' HILL. APPLE TREE STRIPPED OF ITS LEAVES.



TREE ON LAND OF FRANK E. CHANDLER, CORNER BROOKS AND WINTHROP STREETS, WITH ITS NORTH SIDE COVERED WITH GYPSY AND BROWN TAIL MOTHS BELOW THE BAND OF PRINTER'S INK WHICH PREVENTED THEIR FURTHER ASCENT.



M. D. JONES'S ESTATE, MAPLE AVENUE.



ESTATE ON COTTAGE STREET.



SHOWING GYPSY MOTH EGG CLUSTERS ON TREE AND CURBSTONE.



THOMPSON KIDDER ESTATE, FULTON STREET.



FULTON SPRING LAND, OFF FULTON STREET.



TREE ON ALLSTON STREET, WEST MEDFORD, SHOWING PUPAS UNDER BURLAP AND GYPSY MOTHS ON TREE.



TREE LOADED WITH APPLES BUT STRIPPED OF LEAVES, ON SIMPSON ESTATE, WEBSTER STREET.



SYNDICATE LAND, LOOKING SOUTH TOWARD PROSPECT PARK.



SECTION OF DUTTON'S WOODS BACK OF GOLF GROUNDS; NEARLY ALL OF THE PINE TREES IN THE WHOLE WOOD LOT WERE KILLED BY SINGLE DEFOLIATION.



GOLF GROUNDS FROM BORDER ROAD.



ESTATE OF WILLIAM T. DEBBINS, FOREST STREET, WITH WALTER C. WRIGHT'S WOOD LOT IN BACKGROUND.



WALTER C. WRIGHT'S WOODS ON FULTON STREET.



WALTER C. WRIGHT'S WOOD LOT, FULTON STREET, LOOKING NORTHEAST.



STRIPPED OAK ON D. O. KIDDER ESTATE, FOREST STREET.



PINE TREE ON D. O. KIDDER ESTATE, FOREST STREET.



TREE WITH LARGE BUNCHES OF PUPAS BETWEEN THE LOWER BRANCHES. SYMMES' WOOD LOT, BORDER ROAD.



WALTER C. WRIGHT'S WOOD LOT, DEFOLIATED BY MOTHS, FULTON STREET, FROM THE NORTH.



WALTER C. WRIGHT'S WOOD LOT, FULTON STREET, LOOKING SOUTHWEST.



FAIR AVERAGE OF MANY TREES.



WALTER C. WRIGHT'S NORTH WOOD LOT, FROM FULTON STREET.



ACROSS THE WALTER C. WRIGHT LAND ON FULTON STREET WITH GEN. LAWRENCE'S LAND IN THE BACKGROUND.



STRIPPED TREE ON SYNDICATE LAND ON GOVERNORS AVENUE.



HOMESTEAD OF WALTER C. WRIGHT, FOREST STREET, SHOWING APPLE TREES IN 1904, BUT NEARLY ALL OF THEM ARE ON LAND OWNED BY MARY C. G. WRIGHT.



APPLE TREES COMPLETELY STRIPPED ON LAND OF MARY C. G. WRIGHT.



GYPSY MOTHS LAYING EGGS ON TREE ON SOUTH STREET, OPPOSITE MAPLE AVENUE.



WALTER C. WRIGHT'S NORTH WOOD LOT, DEFOLIATED BY MOTHS, FULTON STREET, LOOKING SOUTHEAST.



WALTER C. WRIGHT'S WOOD LOT, FULTON STREET, NORTHWEST CORNER.



TREE IN RUSSELL WOOD LOT, WINTHROP STREET.



APPLE ORCHARD OF MARY C. G. WRIGHT, FOREST STREET, WEST VIEW.



WOODS OF WALTER C. WRIGHT, NEAR HIS HOME, WEST SIDE OF FOREST STREET.



GYPSY AND BROWN TAIL MOTHS ON TREE ON LAND EAST OF FULTON STREET.



GYPSY MOTHS AND BUNCHES OF PUPAS ON A PINE TREE IN SYMMES' WOOD LOT ON BORDER ROAD.



APPLE ORCHARD OF MARY C. G. WRIGHT, SOUTHWEST VIEW.



MITCHELL ESTATE, FOREST STREET.



BENHAM STREET, CORNER OF CHESTER AVENUE.



DEFOLIATED TREES ON MYSTIC VALLEY PARKWAY, WEST MEDFORD.



SMITH ESTATE, WOBURN STREET.



GYPSY MOTHS ON TREE IN PARK RESERVATION, WHITMORE BROOK ROAD.



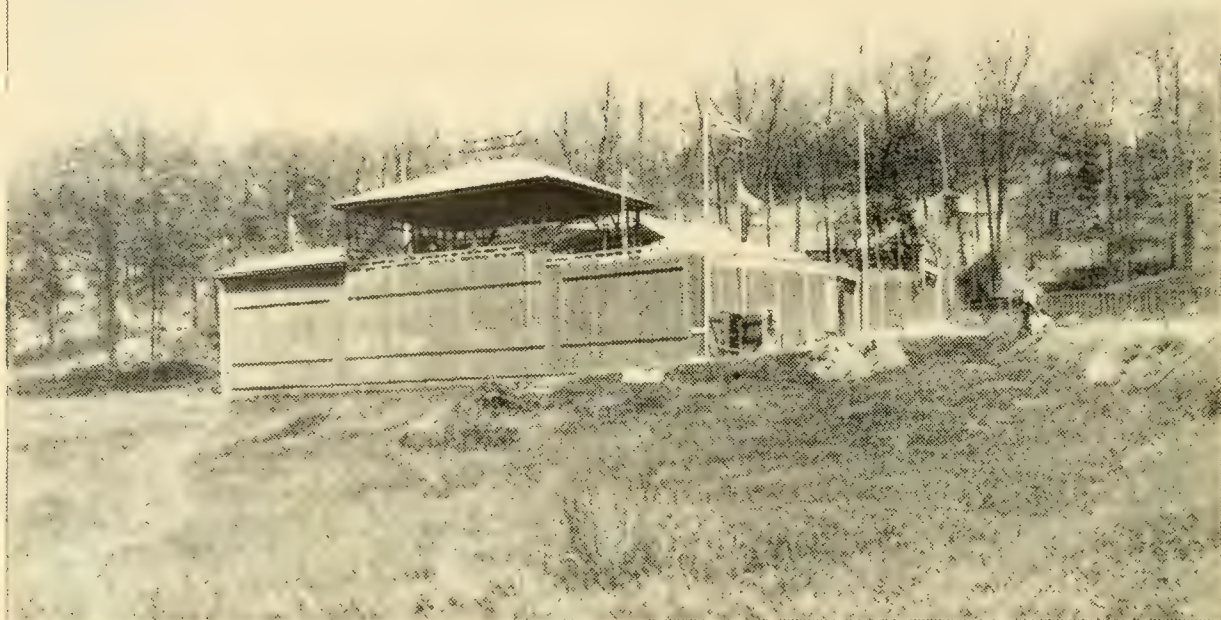
HILLSIDE LOT OF HENRY B. JACOBS, SALEM STREET AND FELLSWAY WEST.



CORNER OF CHERRY STREET AND FELLSWAY WEST.



PART OF A COLONY OF THOUSANDS OF GYPSY AND BROWN TAIL CATERPILLARS CRAWLING ACROSS THE BORDER ROAD, SHOWING A SECTION OF ABOUT A THOUSAND FEET OF THE ROAD IN THE SAME CONDITION.



BOULEVARD THEATRE. FELLSWAY WEST.



APPLE TREE ON ALDERMAN HANSCOM'S LOT, MONUMENT STREET, WEST MEDFORD.



APPLE TREE ON ALDERMAN HANSCOM'S LOT, MONUMENT STREET, LOADED WITH 1,200 PUPAS, PRODUCTIVE OF 300,000 CATERpillARS.



TREES STRIPPED OF THEIR LEAVES, METCALF LAND, GREENLEAF AVENUE, FRONT OF LOT.



METCALF LAND, GREENLEAF AVENUE, REAR OF LOT.



GYPSY MOTHS ON TREE ON WHITMORE BROOK ROAD, METROPOLITAN PARK, ENOUGH EGG CLUSTERS ON THIS TREE TO PRODUCE QUARTER OF A MILLION CATERpillARS.



REAR OF GRACE CHURCH.



A. D. PUFFER'S ESTATE FROM WINTHROP STREET.



TREE ON METROPOLITAN RESERVATION, ON BORDER ROAD, NEAR FOREST STREET.



SAMUEL TAY'S WOOD LOT ON FOREST STREET.



SAMUEL TAY'S WOOD LOT, LOOKING SOUTH FROM BORDER ROAD.



SYMMES' WOOD LOT ON BORDER ROAD.



OSGOOD WOOD LOT, EAST OF FULTON STREET.



JOSHUA T. FOSTER ESTATE, RIVERSIDE AVENUE, LOOKING SOUTH.

WILLOW TREE, FELLISWAY WEST, SHOWING 200 GYPSY MOTHS LAYING THEIR EGGS GOOD FOR 60,000 CATERPILLARS NEXT YEAR.



WILLOW TREE, FIELDSWAX, WESST. SHOWING 200 GYPSY MOTHS LAYING THEIR EGGS GOOD FOR 60,000 CATERpillARS NEXT YEAR.



TREE IN SYMMES' WOOD LOT, ON BORDER ROAD. SHOWING CLUSTERS OF THE PUPAS OF THE GYPSY MOTIL.



LOGAN AVENUE, FROM LOGAN PARK, LOOKING NORTHEAST.



IRVING HOUSE LOT, IRVING STREET.



FREE ON RUSSELL WOOD LOT.



RUSSELL WOOD LOT, EAST SIDE, WHOLLY STRIPPED OF LEAVES BY THE MOTHS.



STRIPPED APPLE TREES ON CITY FARM.



TREE IN RUSSELL WOOD LOT SHOWING GYPSY MOTHS LAYING THEIR EGGS.



RUSSELL WOOD LOT, SOUTHEAST CORNER.



THE MIDDLE OF RUSSELL WOOD LOT, FROM THE EAST.



TREE ON BORDER ROAD, IN METROPOLITAN PARK, SHOWING GYPSY AND BROWN TAIL CATERPILLARS COVERING ITS TRUNK AND SWARMING IN A DARK MASS SEVERAL FEET LONG AT ITS BASE.



APPLE TREE, HOLTON STREET, WEST MEDFORD.



STRIPPED APPLE TREES ON LOT IN REAR OF HILLSIDE SCHOOLHOUSE.



TREE WITH SEVERAL THOUSANDS OF CATERPILLARS ON BORDER ROAD OPPOSITE DWYER WOOD LOT, WHOSE FURTHER ASCENT WAS PREVENTED BY A BAND OF TANGLEFOOT.



BORDER ROAD, NEAR WINCHESTER LINE.



DEFOLIATED APPLE TREES ON D. H. BROWN LOT, WYMAN STREET SIDE.



A TREE ON THE ESTATE OF ROLAND HOPKINS, PLEASANT STREET, ARLINGTON. SHOWING EGG CLUSTERS
OF THE GYPSY MOTHS.



MIDDLESEX RESERVATION, BORDER ROAD TO WINCHESTER.



BORDER ROAD, NEAR WINCHESTER LINE.



TREE WITH EGG CLUSTERS ON LAND OF GEORGE F. MANNING, FOREST STREET.



DWYER WOOD LOT ON GOVERNORS AVENUE, LOOKING SOUTH, WHITE PINE TREES KILLED BY A SINGLE DEFOLIATION.



BORDER ROAD, SOUTH SIDE.



NEAR VIEW OF TREE ON SYNDICATE LAND, ON GOVERNORS AVENUE, SHOWING THE PUPAS AND LARVAE CLUSTERS OF THE GYPSY MOTH.



APPLE TREES ON D. H. BROWN LOT, ALLSTON STREET.



SARAH FULLER HOME ESTATE, WOBURN STREET, ALL OF THE APPLE TREES WERE STRIPPED OF THEIR LEAVES.



TREE ON WHITMORE BROOK ROAD IN METROPOLITAN PARK.



TREE ON LAND OF GEORGE F. MANNING, FOREST STREET, WITH EGG CLUSTERS AND A MASS OF PUPAS.



FIFIELD ESTATE, FULTON STREET.



W. B. KERR'S WOOD LOT, FOREST STREET.



FRII WITH EGG CLUSTERS ON OAKLAND STREET.



WHITE PINES BACK OF THE GOLF GROUNDS WERE KILLED BY THE MOTHS IN 1905.



DWYER WOOD LOT ON GOVERNORS AVENUE, LOOKING NORTH.



TREE ON SYNDICATE LAND WITH PUPAS AND EGG CLUSTERS.



SYNDICATE LAND, LOOKING EAST.



SYNDICATE LAND, LOOKING NORTHEAST FROM PROSPECT PARK.



ON THE D. O. KIDDER ESTATE, FOREST STREET, A SECTION OF A PINE TREE WHICH IS LOADED WITH EGG CLUSTERS OF THE GYPSY MOTIL.



BACK OF LANE LOT FROM WOBURN STREET.



LANE LOT, BROOKS STREET.



TREE ON CHERRY STREET SHOWING GYPSY PUPAS AND THE MOTHS LAYING EGGS.



ON ASA LOCKE'S ESTATE. RIDGE STREET, IN WINCHESTER, A TREE COVERED WITH EGG CLUSTERS OF THE
GYPSY MOTH.



TREES ON THE CONTINUATION OF GOVERNORS AVENUE IN THE METROPOLITAN PARK.



PINES IN NORTHEAST CORNER OF GOLF GROUNDS, LOOKING NORTH.



TREE ON FOLSOM'S LOT, ARLINGTON STREET, WINCHESTER, COVERED WITH GYPSY MOTH EGG CLUSTERS.



IN GEORGE LOCKE'S WOOD LOT, IN WINCHESTER, A TREE THOROUGHLY COVERED WITH GYPSY MOTH
EGG CLUSTERS.



IN HENDERSON'S ORCHARD ON RIDGE STREET, IN WINCHESTER, AN APPLE TREE SHOWING NESTS OF GYPSY MOTHS.



A SAMPLE OF TREES IN GEORGE LOCKE'S WOOD LOT IN WINCHESTER.

A SECTION OF GEORGE LOCKE'S WOOD LOT, IN WINCHESTER, SHOWING EGG NESTS OF GRAY NUTH.





IN HENDERSON'S ORCHARD, IN WINCHESTER, AN APPLE TREE WITH MASSES OF GYPSY MOTH EGG CLUSTERS.



APPLE TREE ON MITCHELL ESTATE, FOREST STREET, SHOWING 225 GYPSY MOTHS LAYING EGGS GOOD FOR 67,500 CATERPILLARS IN 1906.

IN HENDERSON'S ORCHARD, IN WINCHESTER, AN APPLE TREE SHOWING HOW THE GYPSY MOTHS LAY EGG CLUSTERS THROUGHOUT THE TREE.





A TREE SHOWING PUPAS AND EGG CLUSTERS, IN BURLINGTON, NEAR THE JOHN CUMMINGS ESTATE IN WOBURN.



ON LAND OF LOUISE BACON, 203 PLEASANT STREET, WOBURN. A TREE SHOWING PUPAS AND EGG CLUSTERS.



NEAR THE JOHN CUMMINGS ESTATE, IN WOBURN, IS A TREE IN BURLINGTON WITH ITS TRUNK AND BRANCHES COVERED WITH THE EGG CLUSTERS OF THE GYPSY MOTH, CAPABLE OF HATCHING HALF A MILLION OF CATERpillARS.



AT CORNER OF MONTVALE AVENUE AND 2ND STREET, IN WOBURN, A TREE COVERED WITH THE PUPAS AND EGG CLUSTERS OF THE GYPSY MOTIL.



ANOTHER TREE COVERED WITH EGG CLUSTERS, IN BURLINGTON, NEAR THE JOHN CUMMINGS ESTATE IN WOBURN. THE EGG CLUSTERS ON THIS TREE CAN PRODUCE OVER 350,000 CATERPILLARS NEXT SPRING.



A LEDGE WITH PUPAS AND EGG CLUSTERS ON THE ESTATE OF ROLAND HOPKINS, PLEASANT STREET, ARLINGTON.



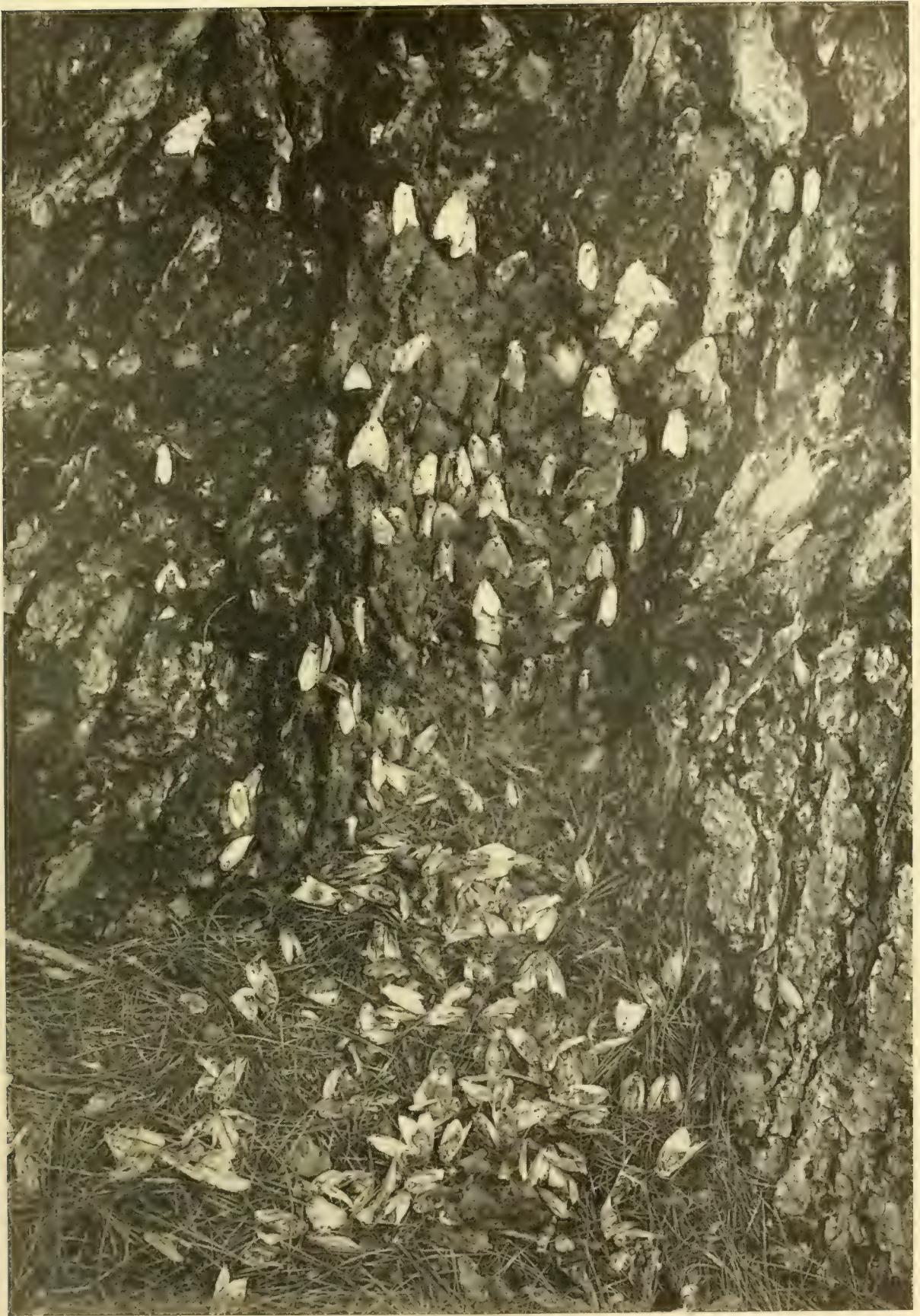
TREE WITH PUPAS AND EGG CLUSTERS ON UPHAM STREET, MELROSE.



TREE STUMP AND LEDGE, HIGHLAND AVENUE, ARLINGTON, SHOWING EGG CLUSTERS AND A MASS OF THE PUPAS OF THE GYPSY MOTIL.



A TREE ON THE CORNER OF MYSTIC AND SUMMER STREETS, IN WYOMING, SHOWING THE PUPAS AND EGG CLUSTERS OF THE GYPSY MOTH.



GYPSY MOTHS AND THEIR EGG CLUSTERS ON A PINE TREE ON THE D. O. KIDDER ESTATE, FOREST STREET.



A LARGE WHITE PINE TREE NEARLY THREE FEET IN DIAMETER ON THE ESTATE OF D. O. KIDDER, FOREST STREET, WAS KILLED BY A SINGLE DEFOLIATION BY GYPSY CATERPILLARS AT WORK ONLY A FEW DAYS.



AN OLD TIN BOX LINED WITH THE PEPAS AND EGG CLUSTERS OF GYPSY MOTHS AT GEORGE H. BEAN'S HOUSE ON HIGH STREET.



ON THE CITY OF MEDFORD'S LAND, ON ELM STREET, AN APPLE TREE STRIPPED OF ITS LEAVES BY MOTHS
RETAINED ITS CROP OF APPLES.



AN OAK SHRUB SIX FEET IN HEIGHT, ON SYNDICATE LAND, HAS THIRTY-EIGHT BROWN TAIL NESTS, WHICH, AT 250 PER NEST, CONTAIN 9,500 BROWN TAIL CATERpillARS.



SECTIONS OF LIMBS SHOWING GYPSY MOTH PUPAS AND EGG CLUSTERS.



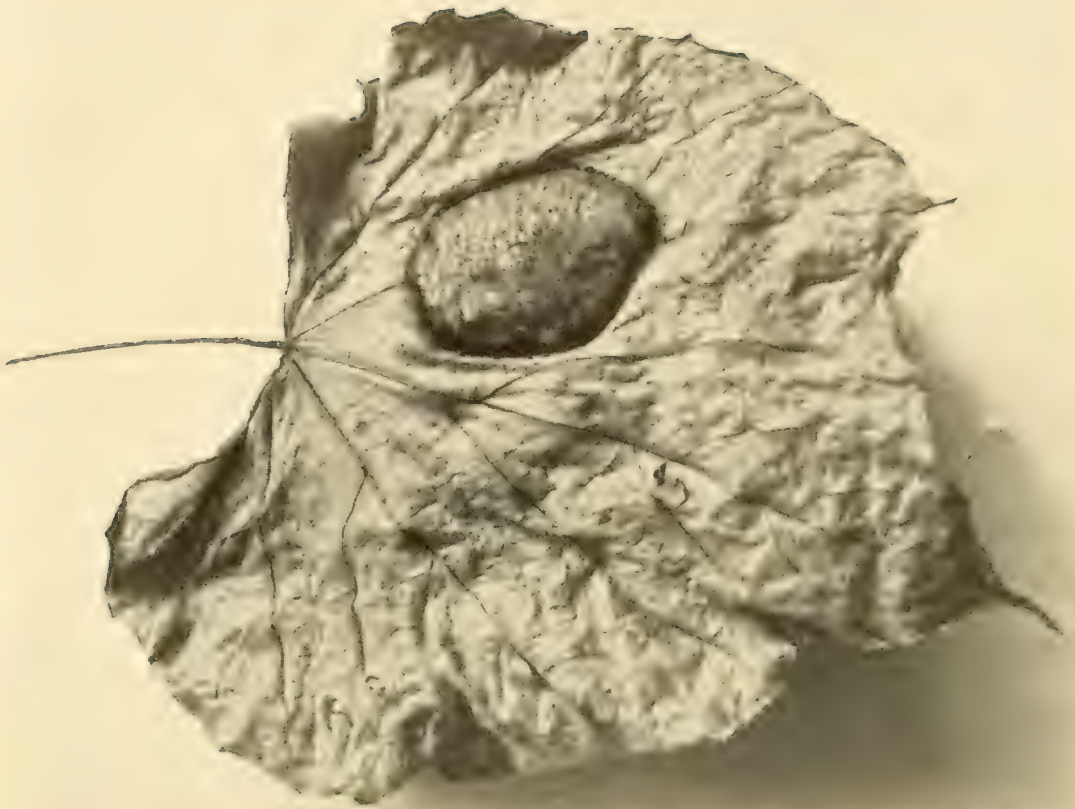
THE GYPSY MOTHS LAY EGG CLUSTERS NOT ONLY ON THE TRUNKS OF TREES BUT ALONG THE BRANCHES,
SO THAT TREES ARE SOMETIMES BESPECKLED WITH THE CLUSTERS.



THE UNDERSIDE OF A SQUIRREL'S NEST SHOWING ENOUGH EGG CLUSTERS TO PRODUCE OVER 15,000 GYPSY
MOTH CATERPILLARS.



ANOTHER SQUIRREL'S NEST GOOD FOR 15,000 CATERPILLARS.



SPECIMEN OF A GYPSY MOTH EGG CLUSTER LAID ON A LEAF, WHICH SHOWS A COMMON PRACTICE OF THE GYPSY MOTIL.



THE PUPAS AND 116 EGG CLUSTERS ON THE FOUR INSIDE SURFACES OF A VENTILATOR CLEARLY SHOW THE DISPOSITION OF THE GYPSY MOTH CATERpillARS TO CRAWL INTO ALL SORTS OF HIDING PLACES TO GO INTO THE PUPAL STATE AND OF THE FEMALE GYPSY MOTHS TO LAY THEIR EGG CLUSTERS IN SUCH PLACES.

THE 16 EGG CLUSTERS ON THE INSIDE OF THE VENTILATOR COULD PRODUCE 24,800 CATERPILARS AND LEAD THE OWNER OF THE PROPERTY TO
STATE THAT THE CATERPILARS MUST HAVE COME FROM HIS NEIGHBOR'S PREMISES.



THE 116 EGG CLUSTERS ON THE INSIDE OF THE VENTILATOR COULD PRODUCE 34,800 CATERpillARS AND LEAD THE OWNER OF THE PROPERTY TO STATE THAT THE CATERpillARS MUST HAVE COME FROM HIS NEIGHBOR'S PREMISES.



AN ENLARGED VIEW OF THE EGG CLUSTERS ON ONE OF THE SIDES OF THE VENTILATOR, SHOWING FORTY-TWO EGG CLUSTERS ON A SECTION FORTY-ONE INCHES LONG, WHICH CAN PRODUCE 12,600 CATERPILLARS.



A PEAR TREE ON THE CORNER OF MAIN AND HANCOCK STREETS, IN MEDFORD, IN BLOOM OCTOBER 25, 1905,
WITH FORTY-THREE BROWN TAIL MOTH NESTS CONTAINING AT THE ESTABLISHED AVERAGE OF 250 PER
NEST 10,270 CATERPILLARS.

SEVENTY EMPLOYEES OF THE CITY OF MILFORD GETTING DOWN AND BURNING TREES AND BRUSH INFESTED WITH EGG CLUSTERS OF GIPSY AND NESTS OF BROWN TAIL MOTHS ON LAND OF STEVENS, ON GOVERNORS AVENUE, NOVEMBER 21, 1905.





EMPLOYEES OF THE CITY OF MEDFORD REMOVING THE NESTS OF BROWN TAIL MOTHS FROM TREES ON SALEM STREET, NOVEMBER 23, 1905.



THIRTY-SIX EMPLOYEES OF GEN. SANTEL, C. LAWRENCE TREATING LOG CLUSTERS OF GYPSY MOTHS AND CUTTING OFF NESTS OF BROWN TAIL MOTHS ON TREES IN WOOD LOT NORTH OF THE CITY FAIR, NOVEMBER 29, 1905. THOMAS F. BOYLE, LEADER OF THE FIVE GANGS OF SEVEN MEN EACH.



TWENTY-TWO LAWRENCE CLIMBERS AT WORK IN WOOD LOT ON RURAL AVENUE, NOVEMBER 23, 1905. ALVIN D. NELSON, LEADER OF FIVE GANGS OF SEVEN MEN EACH.



FOURTY LAWRENCE CLIMBERS CLEANING TWIN PINS OF BOTH CLUSTERS OFF WINTHROP STREET, NOVEMBER 29, 1905. JOHN M. REID, LEADER OF FIVE GANGS OF SEVEN MEN EACH.



LAWRENCE CLIMBERS AT WORK DESTROYING GYPSY EGG CLUSTERS AND BROWN TAIL NESTS OFF LILY POND LANE. EACH GANG OF SEVEN INCLUDING ITS FOREMAN HAS A TENT WITH STOVE, TOOL CHEST, LADDERS, OIL CLOTH SUITS, ETC. NOVEMBER 23, 1905.



AN ELM TREE ON CAMBRIDGE STREET, IN WOHLEN, HAS 256 BROWN TAIL
MOTH NESTS CONTAINING 64,000 CATERPILLARS.



ANOTHER VIEW OF GLIMMERS IN THE WOODS, NOVEMBER 29, 1905.



A WHITE OAK TREE ON THE BORDER ROAD, IN WINCHESTER, HAS 426 BROWN TAIL MOTH NESTS CONTAINING 106,500 CATERPILLARS ANXIOUS TO JOIN THE TRAVELING PUBLIC AS THEY PASS NEXT SUMMER.



FOUR MAPLE TREES ON CAMBRIDGE STREET, IN WOBURN, ARE SPECKLED WITH 423 BROWN TAIL MOTH NESTS, CONTAINING 105,750 CATERpillARS, AN IMPENDING CALAMITY WHICH SHOULD AROUSE THE RESIDENTS OF THAT LOCALITY TO A LIVELY SENSE OF THEIR RESPONSIBILITY.



A TRIPLE WHITE OAK TREE AT 129 HIGHLAND AVENUE, IN WINCHESTER, HAS 315 BROWN TAIL MOTH NESTS CONTAINING 78,750 CATERpillARS, A SUFFICIENT NUMBER TO INTEREST THE DWELLERS IN THAT VICINITY IN DUE SEASON.



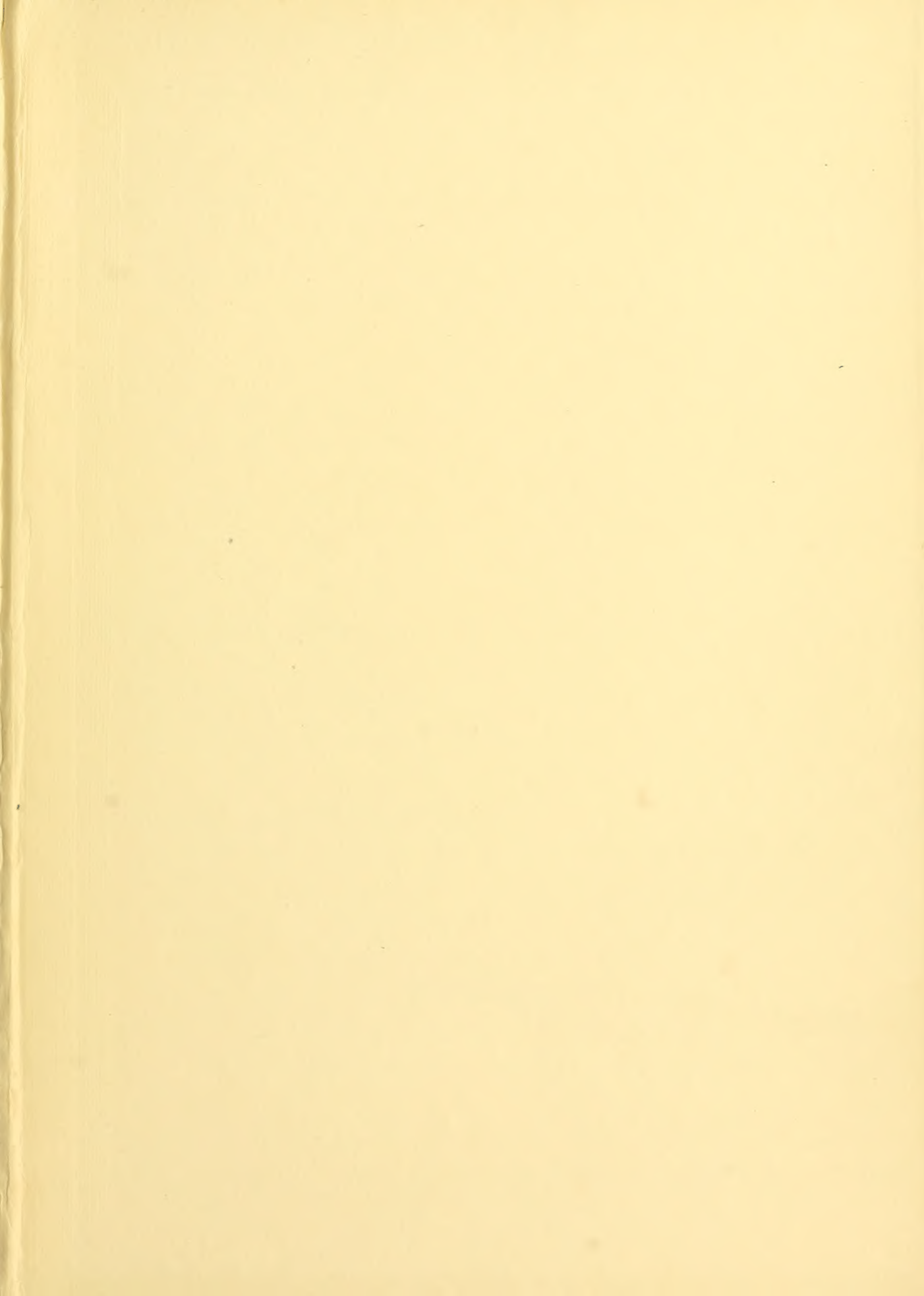
ON A RED OAK TREE AT 301 MAIN STREET, IN WINCHESTER, 312 NESTS OF BROWN TAIL MOTHS WERE COUNTED
NOVEMBER 21, 1905, WHICH CONTAIN ON THE ESTABLISHED AVERAGE OF 250 CATERPILLARS PER NEST,
78,000 CATERPILLARS. THIS FACT MAY PROVE INTERESTING TO THE OCCUPANTS OF THE
BUILDING UNDER THE TREE NEXT SUMMER.



A WHITE OAK TREE ON CLARK STREET, IN WINCHESTER, HAD, ON NOVEMBER 21, 1905, 414 BROWN TAIL MOTH NESTS CONTAINING 103,500 CATERPILLARS WAITING THE COMING OF SPRING TO TORMENT THE NEIGHBORHOOD.



ON THE ESTATE OF ASA LOCKE, IN WINCHESTER, THERE IS A SECKEL PEAR TREE LOADED WITH PEARS, BUT STRIPPED OF LEAVES BY BROWN TAIL MOTH CATERPILLARS HATCHED IN JULY LAST.



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